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*January 24, 2005*

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**APPLICATION NUMBER: 60/531,364**

**FILING DATE: *December 22, 2003***

**RELATED PCT APPLICATION NUMBER: *PCT/US04/43254***



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# **Provisional Patent Application**

## **Vacuum Sample Collector**

### **I. Background of Invention**

A previous provisional patent addressed the subject of an advanced pathogen-free trim-testing and carcass certification program.

In support of this testing and certification program, it is desirable to have a sampling device capable of collecting a representative and reproducible sample of the microbial load of a carcass in a fast and expedient manner.

### **II. Summary of the Invention**

The principle operation of the Sampling Unit is to spray sterile peptone water onto the carcass surface, then extract the liquid and any fine particulates by vacuum into a sample bottle. The purpose of the sampling unit is to significantly reduce the time required to sample a large combination of surface areas of a carcass. The speed by which a carcass can be sampled, allows every carcass in a lot to be checked for pathogenic microorganisms.

The major components of the Sampling Unit are the vacuum pump, compressor, pressure tank, suction head with a spray nozzle, sample bottles, and a moisture trap.

The compressor provides pressure to the pressure tank that delivers sterile peptone water to the spray nozzle located inside the suction head. The spray nozzle directs the peptone water onto the carcass surface, in a line approximately the width of the suction head. The peptone water is extracted from the carcass surface by vacuum, first through a wand, and then a hose connecting the wand to the sample bottle. The wand makes all parts of the carcass accessible to the person operating the Sampling Unit.

The handle connecting the wand and the sample hose to the sample bottle has a trigger design valve that controls the amount of peptone water delivered to the carcass surface. A moisture trap between the sample bottle and the vacuum pump protects the vacuum pump from moisture.

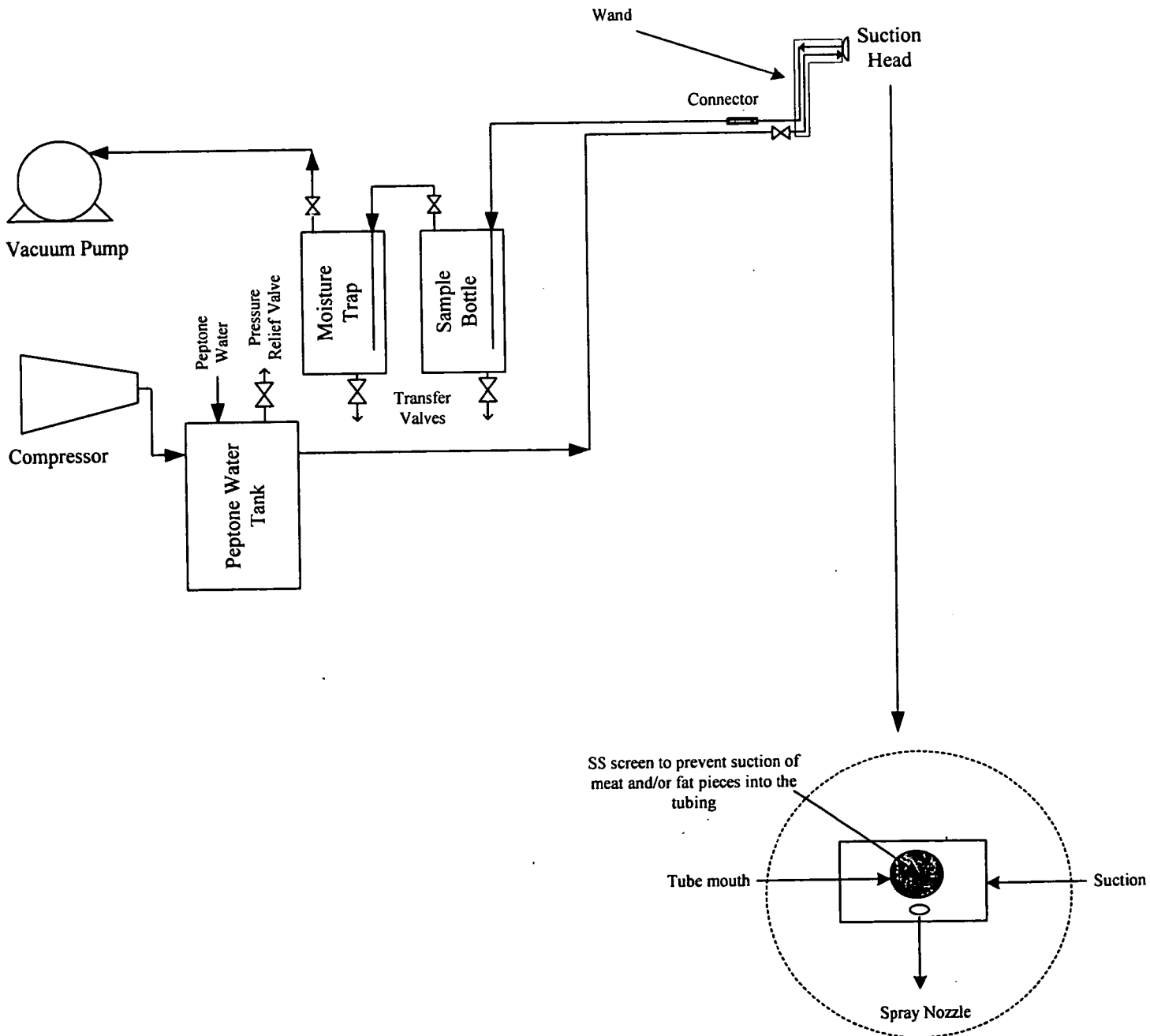
All components are contained on a cart. The sampling bottle and moisture trap are located in a rack on top of the cart. The rack has space for additional sample bottles. The vacuum pump, compressor, and pressure vessel are located on the enclosed bottom shelf. A double door provides access to the equipment on the shelf.

The moisture trap, sample bottle, sample hose, and wand can quickly be separated. Similarly, the various segments of the line supplying peptone water from the pressure tank to the spray nozzle in the suction head are connected by quick disconnects.

A retractable electric cord inside the covered portion of the cart supplies power to the unit. The vacuum pump is controlled by a switch on the cart side panel.

The Sampling Unit comes with two (2) wand assemblies. While one is used for sampling the other is sanitized in the Sanitizing Unit.

# SAMPLING UNIT



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December 19, 2003

PROVISIONAL APPLICATION COVER SHEET

MAIL STOP  
PROVISIONAL PATENT APPLICATION  
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ALEXANDRIA VA 22313-1450

Re: VACUUM SAMPLE COLLECTOR, by MANSOUR SAMADPOUR

The named inventor, MANSOUR SAMADPOUR has authorized the filing of this PROVISIONAL PATENT APPLICATION under 35 U.S.C. 111(b) for: VACUUM SAMPLE COLLECTOR.

MANSOUR SAMADPOUR has an address of Molecular Epidemiology, Inc., 8279 Lake City Way N.E., SEATTLE WA 98115 and is a citizen of THE UNITED STATES OF AMERICA

A written specification containing the description of the invention to enable any person skilled in the art to make and use the invention and setting forth the best mode for carrying out the invention in compliance with 35 U.S.C. 112 together with any drawings when necessary for the understanding of the invention are attached hereto.

A filing fee of \$ 160.00 is attached hereto.

LAW OFFICE OF JOSEPH CHALVERUS

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